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Engineer Manual  
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## Engineering and Design COASTAL GROINS AND NEARSHORE BREAKWATERS

- 1. Purpose.** This manual provides guidance for the design and placement of beach stabilization structures, specifically groins, nearshore breakwaters, and submerged sills.
- 2. Applicability.** This manual applies to major subordinate commands, districts, laboratories, and field operating activities (FOA) having responsibility for the design of civil works projects.
- 3. General.** Design of beach stabilization structures is complex. It requires analyses of the wave, current, and longshore transport environments and the coastal processes at a project site. It requires knowledge of the functional performance of the various shore stabilization schemes, the application of engineering judgment and experience to the design, and the structural design of a system that will withstand the marine environment and function as intended. Beach stabilization structure designs are site specific, and no single scheme is best for all situations; consequently, each design must be tailored to its specific objectives and site. This manual provides guidelines and design concepts but does not, in most cases, provide detailed design procedures.

FOR THE COMMANDER:

  
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